TANZANIA METEOROLOGICAL AGENCY

MONTHLY WEATHER BULLETIN

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HIGHLIGHTS

- Short rains have started over some areas that experience a bimodal rainfall pattern.
- Over the livestock potential areas (northeastern highlands, Lake Victoria basin, central and Tabora region) the pasture supply has became low due to prevailing seasonal dry conditions.

SYNOPTIC SUMMARY

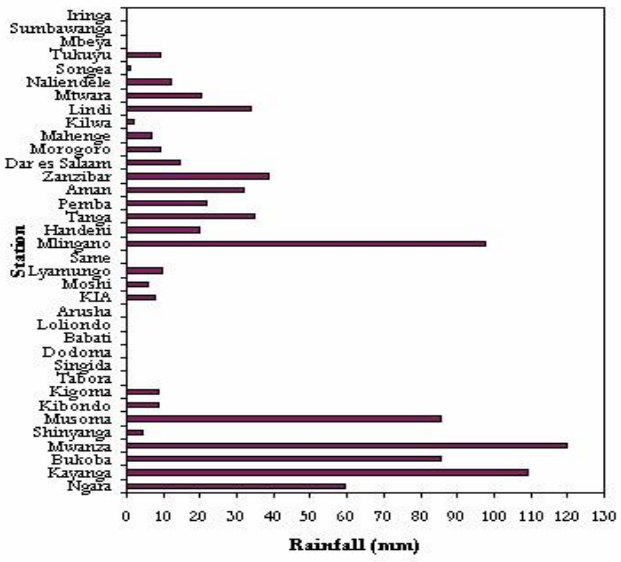
During the month of September, the southern hemisphere systems, the St. Helena and Mascarene anticyclones started to relax and the East African ridge extended up to southern parts of Kenya. A southeasterly flow dominated the entire country. The northern hemisphere systems, the Azores and Siberian anticyclones together with Arabian ridge started to intensify, thus slightly displacing southwards the Inter-Tropical Convergence Zone (ITCZ). The Near Equatorial Trough (NET) and warm Sea Surface Temperatures (SSTs) over northwest Indian Ocean were dominant features over the area, influencing rainshowers over northern coast and northeastern highlands. The Lake Victoria basin was dominated by a weak trough.

WEATHER SUMMARY

RAINFALL

Much of the rainfall activities reported were over areas that experience a bimodal rainfall pattern (the Lake Victoria basin and northern coastal belt) indicating start of the short rains (V*uli*) season in those areas. Some few areas in the southern coast also received light rains. A highest rainfall recorded was 120 mm at Mwanza followed by Kayanga 109.3 mm, Mlingano 97.3 mm, and Musoma and Bukoba 85.7 mm. Much of the reported rainfall activities were over the Lake Victoria basin and northern coast.

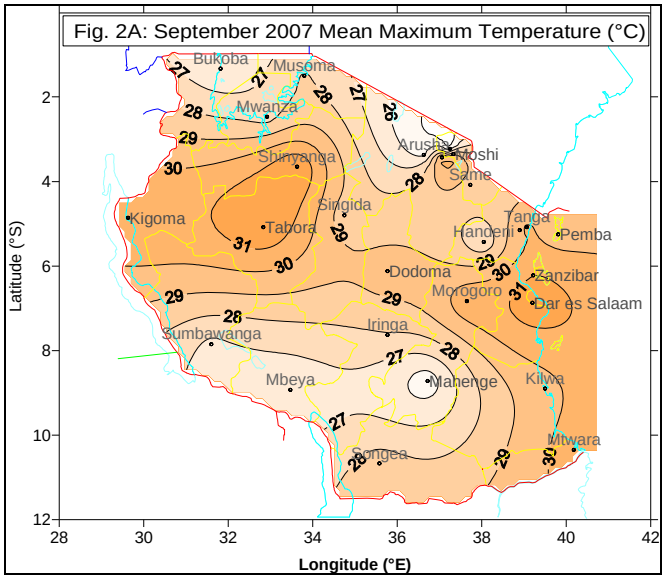
Fig. 1: Septemba 2007 Rainfall Totals



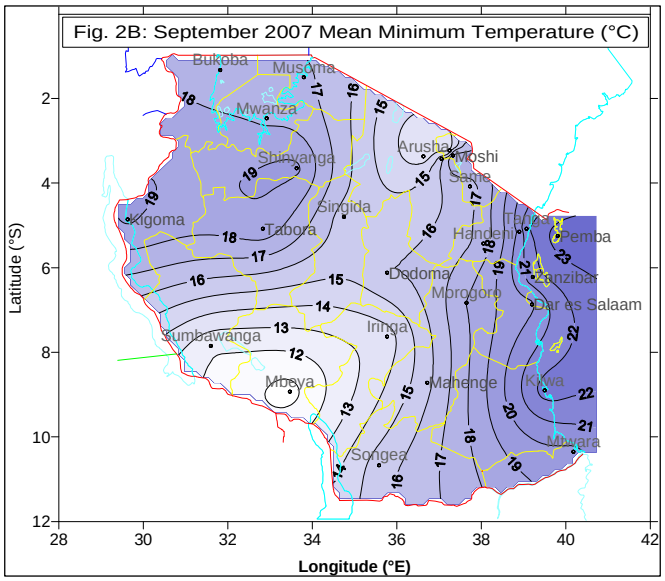
MEAN AIR TEMPERATURE

Temperatures peaked up slightly during the month of September. The spatial mean maximum and minimum values are shown in Figs. 2A and 2B respectively. The mean maximum temperature ranged between just above 31 ºC and just below 26 ºC as indicated in Figure 2A.

The highest mean maximum temperature recorded during the month was about 32 °C at Shinyanga (Lake Victoria basin), Kigoma (western), and Dar es Salaam, while the lowest was about 25 °C at Lyamungo (northeastern highlands) and Mahenge (southern Morogoro region). The highest values were observed during the third dekad of the month.



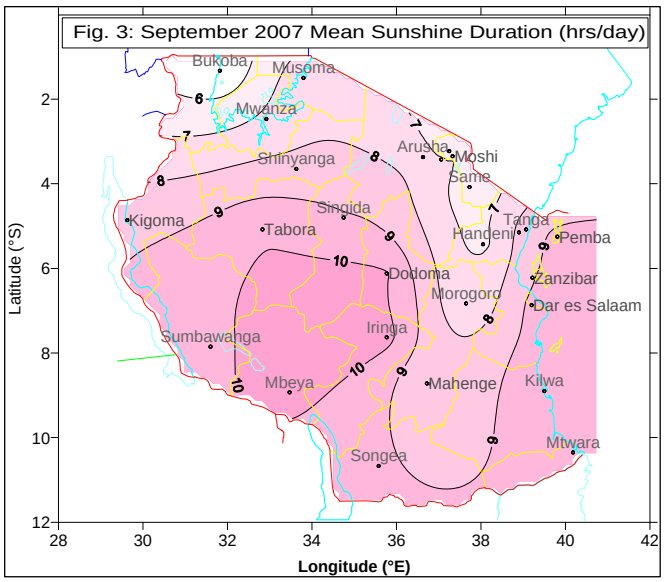
The highest 10-day maximum temperatures reported during the third dekad of the month was 34 °C at Shinyanga, followed by Tabora 33.5 °C and Kigoma 32.8 °C .



The mean minimum air temperatures ranged from just below 11 °C to slightly above 23 °C as shown in Fig. 2B. The lowest value of the mean minimum temperature recorded was about 10.6 °C at Mbeya, while the highest value was about 23.4 °C at Pemba. During the first dekad of September, Mbeya reported a 10-day mean minimum temperature of about 10.0 °C as compared to 6.1 °C which was experienced in August. Compared with temperature conditions in August the temperatures in September improved significantly mainly in the southwestern and northeastern highlands (cooler areas) of the country.

MEAN SUNSHINE HOURS

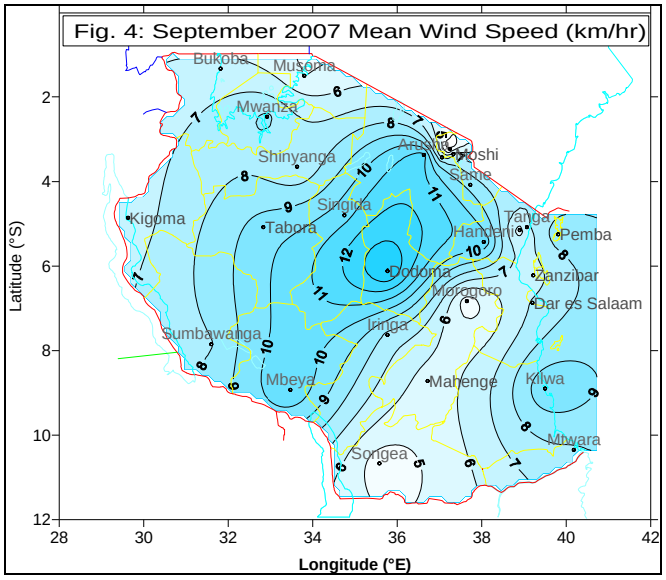
Spatial distribution of mean sunshine hours across the country during September indicates that the duration of mean bright sunshine hours ranged from below 6 hrs/day in the west of Lake Victoria basin (Kagera region) to above 10 hrs/day over parts of Tabora, Singida, Dodoma, and Mbeya regions as shown in Fig. 3. Shorter durations of sunshine are likely to continue over bimodal rainfall areas due to an increase in cloud activities as V*uli* rains pick tempo in these places.



MEAN DAILY WIND SPEED

During the period mean wind speed across the country ranged between about 4 and 13 km/hr as indicated in Fig. 4. The central part and its neighborhoods experienced windy conditions with wind speeds exceeding 10 km/hr. The core of maximum wind speed (about 13 km/hr) was located at Dodoma. Slight winds of less than 5 km/hr had the cores of minimum speeds located over Musoma, Lyamungo, Morogoro, and Songea.

The increased wind speed accompanied with dry conditions over central areas, southwestern and northeastern highlands areas increased prospects for occurrences of dust devils, wind erosion, and higher evaporation rates.



SATELLITE INFORMATION

Figure 5 depicts the mean vegetation greening condition during the third dekad of September.

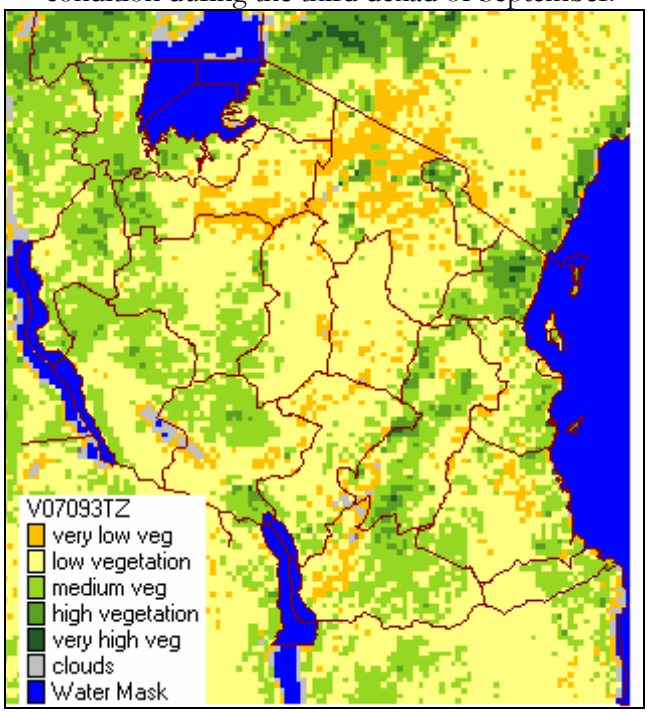


Figure 5: Normalized Difference Vegetation Index (NDVI) from METEOSAT satellite sensor as depicted during third dekad of September 2007.

In dekad 3 September 2007, the satellite depicted NDVI between very low to low indices over much of the country, mainly the northeastern highlands (Arusha, Manyara, and Kilimanjaro regions), Lake Victoria basin (Shinyanga region), western (northern part of Tabora region), and central (Dodoma and Singida regions), western Mbeya and Iringa regions. Most of these areas that have depicted very low vegetation conditions are high potential areas for livestock, thus pasture supply has become low due to prevailing seasonal dry conditions.

The vegetation seemed better (high to very high indices) mainly over eastern Lake Victoria basin, costal belt, Morogoro and northern Kigoma.

AGROMETEOROLOGICAL SUMMARY

Onset of the short rains over the Lake Victoria basin and northern coast has improved soil moisture and farmers have taken up the opportunity to finalize land preparations and started planting the short rains season crop.

Growth of cassava and sweet potatoes over several areas across the country was progressing well at various stages, while market supply for both crops was good.

Pasture conditions and water availability for livestock and wildlife are decreasing in supply over the central, western, and southern areas as the dry season continued but are set to improve over northern, northeastern highlands as the short rains continue.

HYDROMETEOROLOGICAL SUMMARY

Water levels in lakes and dams, and water flows in rivers in the bimodal rainfall areas are expected to improve following the onset of the *Vuli* rains. Elsewhere, more decrease in water levels is anticipated in October due to prevailing seasonal dry conditions. However, water for domestic and industrial purposes should be used sparingly.

ENVIRONMENTAL SUMMARY

Temperatures are rising and windy conditions are declining. Fire hazards (bush and wildfires in

particular) are still rampant in the dry areas of the country.

EXPECTED SYNOPTIC SITUATION DURING OCTOBER 2007

The northern hemisphere systems (the Arabian ridge, Siberian and Azores anticyclones) are expected to intensify while the southern hemisphere systems (The St. Helena, Mascarene anticyclones and the East African ridge) are expected to relax, allowing the ITCZ to continue shifting southwards. A trough observed over Lake Victoria Basin is expected to intensify, together with the meridional component of the ITCZ, which will influence showers and thunderstorms over the area. The existence of NET over northwest Indian Ocean is expected to influence rainfall activities over northern coast and northeastern highlands.

EXPECTED WEATHER SITUATION DURING OCTOBER 2007

Northern coast (Pwani, Dar es Salaam, Tanga and Morogoro regions together with Zanzibar and Pemba Islands) and northeastern highlands (Arusha, Kilimanjaro and Manyara regions) are expected to feature partly cloudy conditions with rain showers over few areas. Southern coast (Lindi, Mtwara and southern Morogoro regions) is expected to feature partly cloudy conditions with occasional rain showers over few areas. Lake Victoria basin (Kagera, Mwanza, Shinyanga and Mara regions) together with western areas (northern Kigoma region) are expected to feature partly cloudy conditions with showers and thunderstorms over much of the area. Southwestern highlands (Iringa, Rukwa and Mbeya regions), western areas (southern Kigoma and Tabora regions), southern areas (Ruvuma region) and central areas (Dodoma and Singida regions) are expected to be mainly dry and sunny.

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